



Formosa Plastics®

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April 30, 2019

Certified Mail: 7018 2290 0000 0529 6098

Air Section Manager, Region 14  
Texas Commission Environmental Quality  
Natural Resource Center  
6300 Ocean Drive, Suite 1200  
Corpus Christi, Texas 78412

RE: Formosa Plastics Corporation, Texas  
TCEQ Air Quality Account No. CB-0038-Q  
First Quarter 2019 North SUMMA Canister Report

Dear Air Section Manager:

Please find attached the quarterly summary of results from the North SUMMA Canister Monitoring System. This system, and the associated FTIR, was installed as a Supplemental Environmental Project (SEP) as required by TCEQ Docket No. 2000-1144-AIR-E. The sampling requirements of the SEP have been met by FPC-TX, and sampling has been reduced to a monthly frequency. The first quarter 2019 results are shown on the attached table. Additionally, we have included wind roses generated by the weather sensor on the North FTIR or wind direction data from other air monitoring devices for each SUMMA canister sampling date during the first quarter 2019.

This report was designed to be similar to the Point Comfort SUMMA Canister Monitoring Report to maintain reporting consistency. Additionally, an electronic copy of the report has been sent to Dr. Tracie Phillips, per Mr. Darrell McCant's request.

Should you have any questions please contact Vanessa Peppers by e-mail at [VanessaP@ftpc.fpcusa.com](mailto:VanessaP@ftpc.fpcusa.com).

Sincerely,

Rick Crabtree  
Vice President/General Manager  
Formosa Plastics Corporation, Texas

Attachments

cc: Dr. Tracie Phillips  
Toxicology Division  
Texas Commission on Environmental Quality  
P. O. Box 13087  
Austin, Texas 78711-3087

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## FORMOSA PLASTICS CORPORATION, TEXAS

### SUMMA CANISTER QUARTERLY REPORT

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#### CALCULATION METHODOLOGY

Following is the calculation methodologies used to calculate the Year-To-Date Sum and Year-To-Date Average for the four SUMMA canister sampling sites. Please note, there are two columns associated with each component analyzed. The column titled “Actual” represents the results reported by the independent laboratory contracted to analyze the SUMMA canisters. The column titled “½ Reported LOD (Limit of Detection)” represents either the actual result or one-half the limit of detection reported by the laboratory, as appropriate.

#### ACTUAL

The following is entered into the column titled “Actual”:

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to date average;

ND (Non Detect) - As reported by the laboratory. The value of “0” is used to calculate the year to date sum and the year-to-date average;

BDL (Below Detection Limit) - Entered when the actual result is less than the reported limit of detection. The value of “0” is used to calculate the year-to-date sum and the year-to-date average;

“\*” - Non operational sampling period.

#### ½ REPORTED LOD (LIMIT OF DETECTION)

The following is entered into the column titled “½ Reported LOD”:

Numerical Value - Actual results reported by the independent laboratory when the result is equal to or greater than the limit of detection. The numerical value is used to calculate the year-to-date sum and the year-to-date average;

½ the Reported Limit of Detection - ½ the reported limit of detection when the results are reported as non-detect and when the actual result is below the detection limit (BDL). ½ the reported limit of detection is used to calculate the year-to-date sum and the year-to-date average.

“\*” - Non operational sampling period.

## **FORMOSA PLASTICS CORPORATION, TEXAS**

### **SUMMA CANISTER QUARTERLY REPORT**

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Limit of Detection (LOD) - Method Detection Limit, Limit of Detection, Reporting Limit, etc... as reported by the independent laboratory conducting the analysis.

#### **DUPLICATE SAMPLES**

Beginning with the revised First Quarter 2004 Report, submitted on October 22, 2004, the duplicate samples will be reported discreetly on a separate VOC Canister Analysis Table. This is done so that the duplicate samples can be compared to the routine samples and the Relative Percent Difference (RPD) can be calculated. The RPD is calculated using the following equation:

$$\{(X_1-X_2) / [(X_1+X_2) / 2]\} \times 100$$

Mr. David Carmichael provided this equation in his August 20, 2004 e-mail request for changes. Where the duplicate and routine sample indicated "ND", the RPD is reported as "ND". Where the duplicate or routine sample indicated "ND" and the other indicated a concentration greater than ND, the RPD is calculated by using the value entered in the actual concentration column and the value entered in the  $\frac{1}{2}$  Reported LOD column.

#### **YEAR-TO-DATE SUM**

The year-to-date sum is calculated by taking the sum of all values entered in the column.

#### **YEAR-TO-DATE AVERAGE**

The following formula is used to calculate the year-to-date average:

Year-To-Date Sum / (Number of theoretical sample periods - Number of non operational sample periods)

**FORMOSA VOC CANISTER ANALYSIS  
1ST QUARTER 2019  
NORTH SITE**

SAMPLE DATE	AVG. WIND DIRECTION (Degrees)	AVG. WIND SPEED (mph)	ETHYLENE		1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
			Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
04/1/18	322	8.9	*	*	*	*	*	*	*	*	*	*
05/31/18	158	14.5	ND	0.0500	ND	0.1250	0.4970	0.4970	0.6950	0.6950	0.3300	0.3300
06/30/18	160	13.9	ND	0.0500	ND	0.1250	0.2590	0.2590	0.1650	0.1650	0.1030	0.1030
07/28/18	322	8.9	*	*	*	*	*	*	*	*	*	*
08/31/18	158	15	ND	0.0500	ND	0.1250	0.4360	0.4360	0.1630	0.1630	0.3360	0.3360
09/30/18	160	13.9	ND	0.0500	ND	0.1250	ND	ND	ND	ND	0.0500	0.0500
10/28/18	4	196.4	ND	0.0500	ND	0.1250	ND	ND	ND	ND	0.0500	0.0500
11/27/18	2	94.0	*	*	*	*	*	*	*	*	*	*
12/27/18	152	3.3	ND	0.0500	ND	0.1250	0.2980	0.2980	ND	ND	0.1320	0.1320
01/16/19	114	7.3	ND	0.0500	ND	0.1250	0.3410	0.3410	ND	ND	0.0500	0.0500
02/21/19	26	8.9	ND	0.0500	ND	0.1250	0.2130	0.2130	ND	ND	0.0500	0.0500
03/23/19	137	12.0	*	*	*	*	*	*	*	*	*	*

ETHYLENE	1,3 BUTADIENE		BENZENE		VINYL CHLORIDE		ETHYLENE DICHLORIDE	
	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)	Actual (ppb)	1/2 Reported LOD (ppb)
Year-To-Date Sum	0.0000	0.4000	0.0000	1.0000	2.0440	2.1440	1.0230	1.2730
Rolling Year Average	0.0000	0.0500	0.0000	0.1250	0.2555	0.2680	0.1279	0.1591
Annual Average	0.0000	0.0500	0.0000	0.1250	0.2770	0.2770	0.0000	0.0500

Number of theoretical sample periods  
Number of non operational sample periods

12 12 12 12 12 12 12 12  
4 4 4 4 4 4 4 4  
d - Duplicate sample taken in addition to the routine sample (See Calculation Methodology for information on inclusion of duplicate sample results.)  
a - Wind rose attached  
\* - non operational, data from the North site was used for Wind Direction and Wind Speed, if available

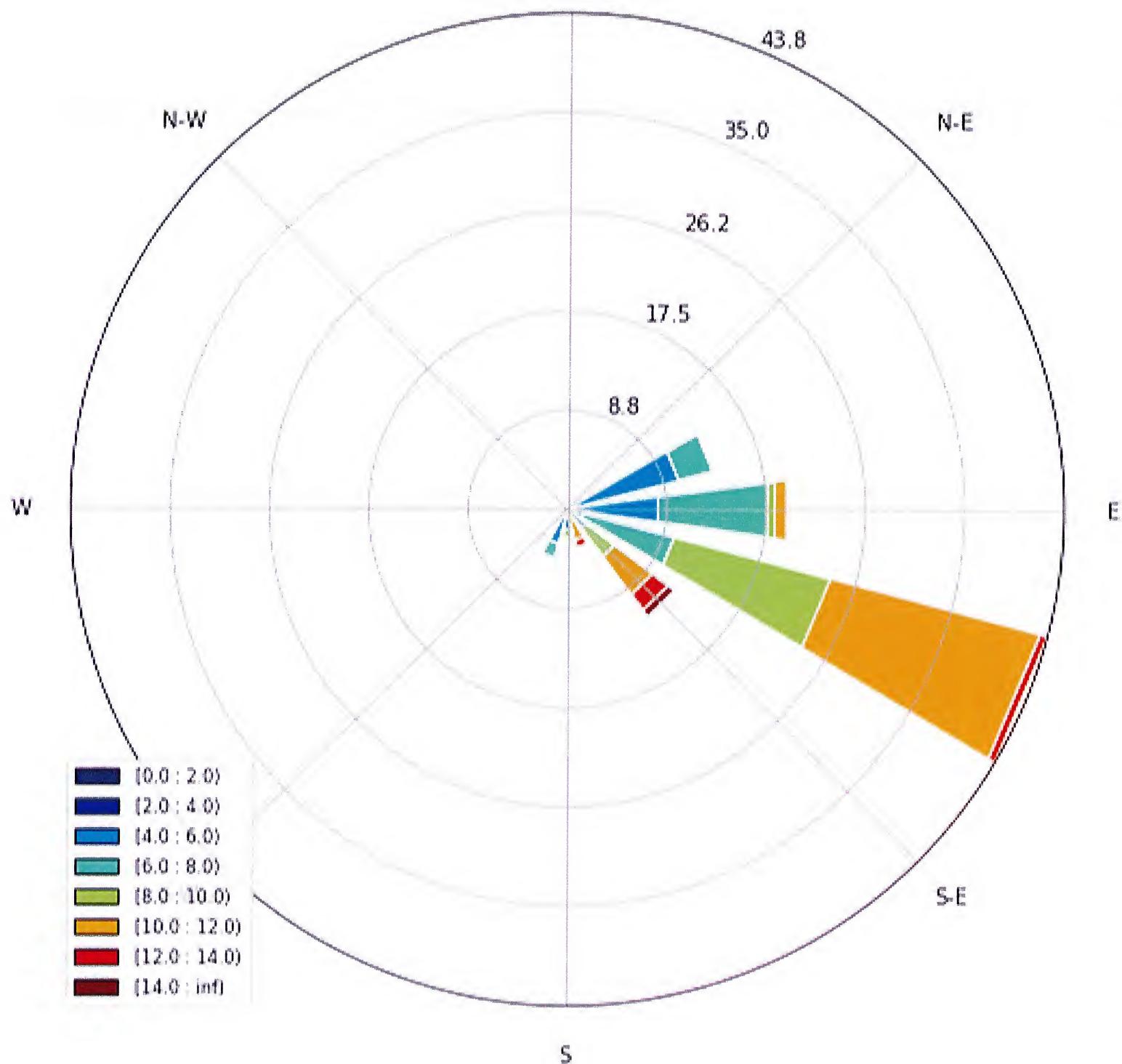
Chemical	TCEQ Air Monitoring Comparison Values (ppb)		Investigation Limit (ppb)
	ST	LT	
Vinyl Chloride	27,000	0.47	25
Ethylene Dichloride	94	0.72	29.7
Benzene	180	1.4	28.2
Ethylene	500,000	30	500
1,3 Butadiene	1,700	9	25

## Summary of Non-operational Periods - 1st Quarter 2019

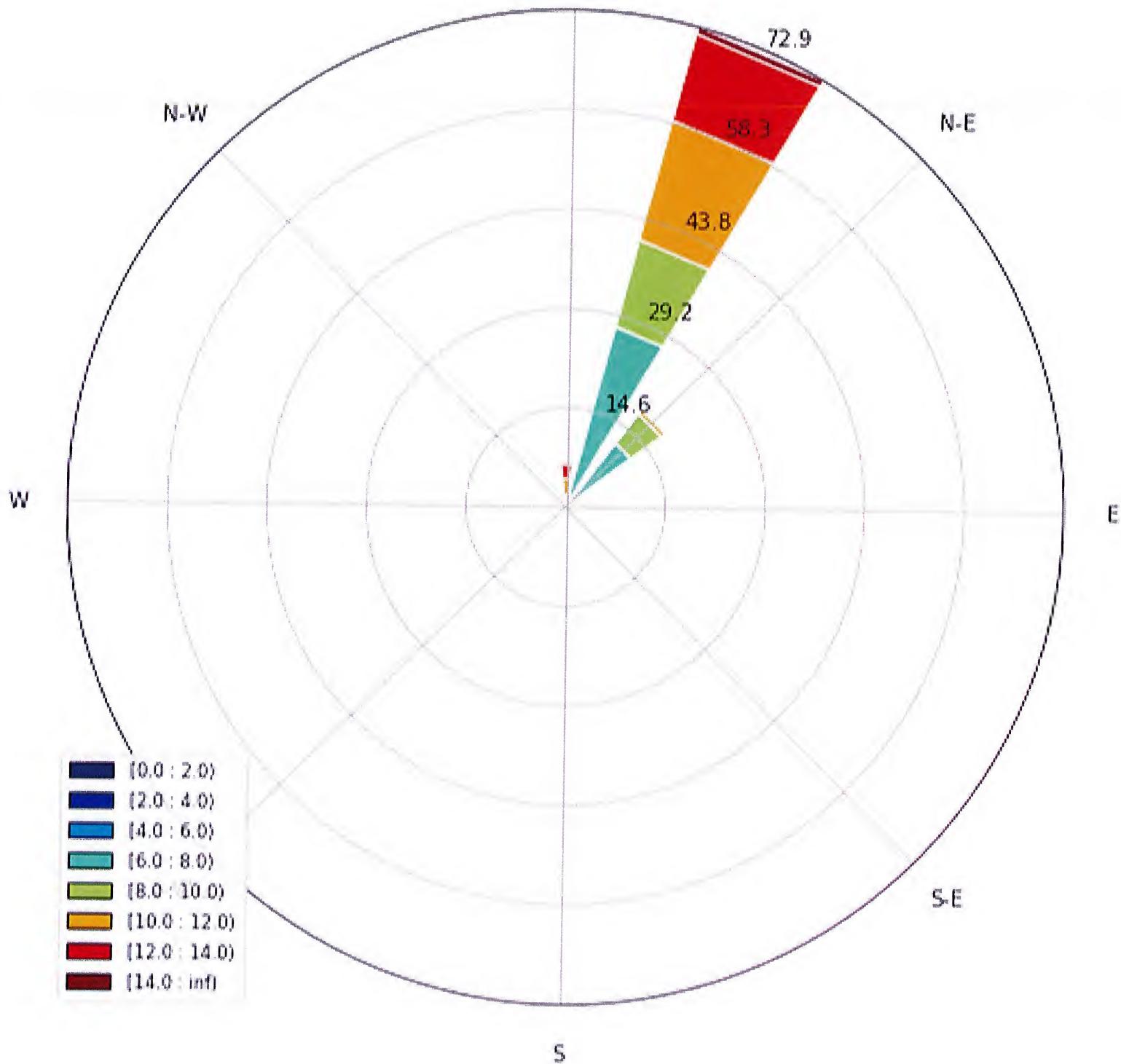
### North Site SUMMA Canister System

SUMMA Site	Date (s)	Description of Problem	Corrective Action
North	23-Mar-19	No SUMMA cans available.	Original lab could not keep up with the amount of SUMMA canisters needed. The lab notified us and stated they would no longer provide services to us. Sample results for the canister they had were delayed which left us without SUMMA canisters until another lab could be arranged.

FN: Jan 16 2019



FN: Feb 21 2019  
N



FN: March 23 2019  
N

